

REMARKS

Reconsideration of this application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-2, 7-12, 15, 19, 22-24, 29, 31 and 33-37 are pending in the application. Claims 1-2, 8, 10, 15, 34 and 36 are amended.

Applicant respectfully requests entry of the above amendment and submits that the above amendment does not constitute new matter.

Support for the amendments to the claims can be found throughout the specification and in the claims as originally filed. In particular, support for the amendment to claims 1-2, 8, 10, 34 and 36 can be found, *inter alia*, in the specification at page 9, line 4 and 19-20. Support for the amendment to claim 15 can be found, *inter alia*, in claim 15 as originally filed.

Typographical errors have been corrected in amendments to claims 1-2, 34 and 36.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding and rejections and that they be withdrawn.

Claim Objections

Applicant thanks the Examiner for pointing out the typographical and grammatical errors appearing in claims 2 and 36. Applicants have amended claims 2 and 36 accordingly. Thus, Applicant submits that any objections to claims 2 and 36 have been rendered moot.

Rejections under 35 U.S.C. § 112, second paragraph

The Office Action states that claims 2, 7, 12, 15, 19, 22-24, 29, 31 and 33 are rejected under 35 U.S.C. § 112, para. 2, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant thanks the Examiner for the suggested amendments to claims 2 and 15. Applicant has amended claims 2 and 15 in accordance with the suggested amendments.

Applicant has amended claim 2 to correct a typographical error and claim 15 to correct the lack of antecedent basis for the term "plant." Thus, the rejection of claim 2, and its dependent claims 7, 12, 19, 22-24, 29, 31 and 33, and claim 15 under 35 U.S.C. § 112, para. 2, has been rendered moot.

Rejections under 35 U.S.C. § 112, first paragraph

The Office Action maintains the rejection of claims 1-2, 7-12, 15, 19, 22-24, 29, 31 and 33-37 under 35 U.S.C. § 112, para. 1, as allegedly failing to comply with the written description requirement. The Office Action refers to the statements in the Office Action mailed January 13, 2004 regarding the purported lack of written description:

Additionally, the claims are not limited to the use of the potato GBSSI gene or the potato BEI gene for antisense inhibition or sense cosuppression of the expression of the corresponding genes. Instead, claims 1, 7-12, 15, 19, 22-24, 29, 31 and 33 are drawn to the use of single nucleic acid sequences from any gene source and from any plant source which somehow simultaneously reduce the expression of both GBSSI and BE proteins, often by both antisense and cosuppression effects simultaneously. Additionally, these claims as well as claims 34-37 are broadly drawn to DNA molecules of any sequence and from any plant or gene source which somehow reduce expression of either GBSSI or BE proteins, via antisense or cosuppression effects.

Office Action of January 13, 2004, pages 4-5 (emphasis in original).

As an initial matter, Applicant respectfully points out that the claims recite "BEI" proteins. Applicant amended the claims to recite "BEI" protein in the Amendment dated March 11, 2004. Thus, the Office Action is incorrect in citing that portion of the Office Action of January 13, 2004 that refers to the claims as reciting "BE" protein. To the extent the rejection of the claims based on an alleged lack of written description relies on a recitation of "BE" protein, Applicant submits that such rejections are moot in light of the fact that the claims do not recite "BE" protein.

Applicant respectfully submits that sufficient written description exists for claims 1-2, 7-12, 15, 19, 22-24, 29, 31 and 33-37 in the specification, as shown by the Declaration of Dr.

Volker Landschütze, which was submitted with Applicant's Amendment Under 37 C.F.R. § 1.116 dated March 11, 2004. For example, the specification provides written description support for claims 1-2, 7-12, 15, 19, 22-24, 29, 31 and 33-37 on page 5, lines 23-30, page 6, lines 19-27, page 9, lines 6-23 and pages 38-39, Example 1.

However, in the interest of advancing prosecution, Applicant amended claims 1-2, 8, 10, 34 and 36 to recite that the DNA molecules contain "a sequence with a homology of between about 95% and 100% to an endogenous gene encoding BEI protein" and "a sequence with a homology of between about 95% and 100% to an endogenous gene encoding GBSSI protein." Written description support for the claims, as amended, can be found in the specification, which states, for example:

Also suitable is the use of DNA sequences which have a high degree of homology to the sequences occurring endogenously in the plant cell, which encode GBSSI and/or BE proteins. . . . The use of sequences with homologies between 95 and 100% is preferred. For example, for the inhibition of the BEI gene from potatoes, a DNA sequence coding for a BEI protein is preferably used, in particular from potatoes, Kossmann et al.

Specification, page 9, lines 17-22 (citations omitted).

In addition, support for claims 1-2, 8, 10, 34 and 36, as amended, can be found in Example 1, pages 38-39, which discloses transformation with a plasmid containing nucleotides +1181 to +2511 of the GBSSI gene from *Solanum tuberosum* and a plasmid containing a partial cDNA for the BEI enzyme from potato.

Thus, one of ordinary skill in the art would recognize, upon reading the specification, that the inventors were in possession of the subject matter directed to claims 1-2, 8, 10, 34 and 36, as amended. Accordingly, Applicant respectfully submits that the rejection of claims 1-2, 8, 10, 34 and 36, and dependent claims 7, 9, 11-12, 15, 19, 22-24, 29, 31, 33, 35 and 37, under 35 U.S.C. § 112, para. 1, for an alleged lack of written description has been rendered moot.

The Office Action maintains the rejection of claims 1-2, 7-12, 15, 19, 22-24, 29, 31 and 33-37 under 35 U.S.C. § 112, para. 1, for purportedly failing to comply with the enablement requirement. In particular, the Office Action states that

while Applicant argues that any BE or GBSSI gene from any plant would be able to inhibit the expression of endogenous BE or GBSSI genes, it is noted that the claims are not limited to inhibitory sequences comprising BE or GBSSI genes, as stated above.

Regarding the issue of sense suppression (or "co-suppression"), the Examiner now considers that undue experimentation would not have been required by one skilled in the art to obtain cosuppression when utilizing the same exemplified gene fragments utilized by Applicant for antisense suppression. However, undue experimentation would have been required to evaluate a multitude of non-exemplified sequences and sequence fragments of any length and from any source for their ability to achieve sense suppression of endogenous BEI and GBSSI genes.

Office Action, page 6.

As an initial matter, Applicant respectfully points out that the claims recite "BEI" proteins. Applicant amended the claims to recite "BEI" protein in the Amendment dated March 11, 2004. Thus, the Office Action is incorrect in referring to the claims as reciting "BE" protein, and, to the extent the rejection of the claims based on an alleged lack of enablement relies on a recitation of "BE" protein, Applicant submits that such rejections are moot in light of the fact that the claims do not recite "BE" protein.

Applicant respectfully submits that the specification provides enablement for claims 1-2, 7-12, 15, 19, 22-24, 29, 31 and 33-37, as shown by the Declaration. For example, the specification clearly provides an enabling disclosure for claims 1-2, 7-12, 15, 19, 22-24, 29, 31 and 33-37 on page 5, lines 23-30, page 6, lines 19-27, page 9, lines 6-23 and pages 38-39, Example 1.

However, to advance prosecution, Applicant has amended claims 1-2, 8, 10, 34 and 36 to recite that the DNA molecules contain "a sequence with a homology of between about 95% and 100% to an endogenous gene encoding BEI protein" and "a sequence with a homology of between about 95% and 100% to an endogenous gene encoding GBSSI protein." Applicant respectfully asserts that undue experimentation would not be required to practice the invention encompassed by the claims, as amended, and that the specification provides an enabling disclosure for sequences with the claimed homology to the claimed endogenous gene. *See, e.g.,*

Specification, page 9, lines 17-22 (quoted above); Example 1, pages 38-39. One skilled in the art would clearly know how to determine the degree of homology to the corresponding endogenous BEI or GBSSI genes and perform sequence alignments of the genes of interest.

Moreover, Applicant submits that the references cited in the Office Action, Kull *et al.*, *Genetic Engineering of Potato Starch Composition: Inhibition of Amylose Biosynthesis in Tubers from Transgenic Potato Lines by the Expression of Antisense Sequences of the Gene for Granule-Bound Starch Synthase*, 49 J. GENET. & BREED. 69-76 (1995) and Kuipers *et al.*, *Formation and Deposition of Amylose in the Potato Tuber Starch Granule are Affected by the Reduction of Granule-Bound Starch Synthase Gene Expression*, 6 THE PLANT CELL 43-52 (January 1994) are not relevant to the claims, as amended, as evidence of any alleged lack of enablement.

Therefore, Applicant respectfully submits that the rejection of claims 1-2, 8, 10, 34 and 36, and dependent claims 7, 9, 11-12, 15, 19, 22-24, 29, 31, 33, 35 and 37, under 35 U.S.C. § 112, para. 1, for a purported lack of enablement has been rendered moot.

Consequently, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-2, 7-12, 15, 19, 22-24, 29, 31 and 33-37 under 35 U.S.C. § 112, para. 1.

CONCLUSION

Applicant respectfully requests entry of the above claim amendments.

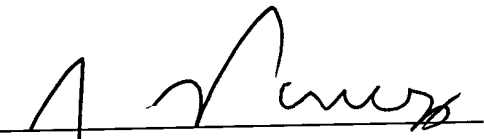
All of the stated grounds of objection and rejection have been properly traversed, accommodated or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

In view of the above claim amendments and remarks, early notification of a favorable consideration is respectfully requested. In the event any issues remain, Applicant would appreciate the courtesy of a telephone call to their representatives to resolve such issues in an expeditious manner. The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-0206.

Respectfully submitted,

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